

CLAIM AMENDMENTS

IN THE CLAIMS

This listing of the claims will replace all prior versions, and listing, of claims in the application or previous response to office action:

1-21. (Canceled).

22. **(Currently Amended)** A portable, high-efficiency liquid oxygen (LOX) storage/delivery apparatus, comprising:

a portable LOX container;

a portable-unit LOX transfer connector connected to said portable container and capable of receiving and transferring LOX to said portable container;

an economizer valve for minimizing venting by balancing gaseous oxygen withdrawn from said portable LOX container via a gas withdrawal conduit and liquid oxygen withdrawal from said portable LOX container via a liquid withdrawal conduit, wherein an inner diameter of said liquid withdrawal conduit is sized so that when said economizer valve is open, gaseous flow from the head-space of said portable LOX container is preferred over flow through said liquid withdrawal conduit;

~~a conserving device;~~ and

a portable-unit oxygen gas transfer connector for transferring oxygen gas to an oxygen gas delivery device for delivery.

23. (Previously Presented) The apparatus of claim 22, wherein said economizer valve opens to allow oxygen gas from a gaseous head-space in said portable LOX container to pass through when the pressure of said oxygen gas in said portable LOX container exceeds a predetermined threshold level and otherwise is closed and allows oxygen gas from evaporated LOX to pass through.

24. (Previously Cancelled).

25. **Cancelled.**

26. **(Currently Amended)** The apparatus of claim ~~[[24]]~~ 22, further comprising at least one of a liquid withdrawal warming coil and a gaseous withdrawal warming coil.

27. (Previously Presented) The apparatus of claim 26, wherein an inner diameter of said liquid withdrawal warming coil is greater than the inner diameter of said liquid withdrawal conduit.

28. (Previously Presented) The apparatus of claim 23, wherein said economizer valve further comprises a relief valve.

29. (Previously Presented) The apparatus of claim 22, further comprising a vent valve.

30. (Previously Presented) The apparatus of claim 29, wherein said vent valve may be open during filling of said portable LOX container.

31. (Previously Presented) The apparatus of claim 22, further comprising a demand flow control device for adjustment of gas flow through said portable-unit oxygen gas transfer connector.

32. (Previously Canceled).

33. (Previously Presented) The apparatus of claim 22, further comprising an inter-unit oxygen gas transfer connector.

34. (Previously Presented) The apparatus of claim 33, further comprising a check valve to prevent backflow of gaseous oxygen through said inter-unit oxygen gas transfer connector.

35. (Previously Canceled).

36. (Previously Canceled).

37. (Previously Presented) The apparatus of claim 22, wherein said apparatus weighs 3 to 5 pounds when said portable LOX container is fully charged with LOX.

38. (Previously Canceled).

39. (Previously Presented) The apparatus of claim 22, wherein said apparatus can deliver a gas withdrawal rate of about 2 liters per minute with a LOX use rate up to about 1/12 pounds per hour.

40-66. (Previously Canceled).

67. (Previously Presented) A portable, high-efficiency liquid oxygen (LOX) storage/delivery apparatus, comprising:

a portable LOX container;

a portable-unit LOX transfer connector connected to said portable container and capable of receiving and transferring LOX to said portable container;

an economizer valve for minimizing venting by balancing gaseous and liquid oxygen withdrawal from said portable LOX container, said economizer valve opening to allow oxygen gas from a gaseous head-space in said portable LOX container to pass through when the

pressure of said oxygen gas in said portable LOX container exceeds a predetermined threshold level and otherwise is closed and allows oxygen gas from evaporated LOX to pass through;

a liquid withdrawal conduit and a gaseous withdrawal conduit in communication with the interior of said LOX container, said liquid withdrawal conduit having an inner diameter sized so that when said economizer valve is open, gaseous flow from said head-space of said portable LOX container is preferred over flow through said liquid withdrawal conduit;

a conserving device; and

a portable-unit oxygen gas transfer connector for transferring oxygen gas to an oxygen gas delivery device for delivery.

68. (Previously Presented) A portable, high-efficiency liquid oxygen (LOX) storage/delivery apparatus, comprising:

a portable LOX container;

a portable-unit LOX transfer connector connected to said portable container and capable of receiving and transferring LOX to said portable container;

a liquid withdrawal conduit and a gaseous withdrawal conduit in communication with the interior of said LOX container;

an economizer valve for minimizing venting by controlling the flow of gas from said gaseous withdrawal conduit through said valve relative to the flow of gas from said liquid withdrawal conduit through said valve, said gas from said liquid withdrawal conduit comprising evaporated liquid from said liquid withdrawal conduit;

wherein said liquid withdrawal conduit has an inner diameter sized so that when said economizer valve is open, gaseous flow from said gaseous withdrawal conduit takes precedence over gaseous flow from said liquid withdrawal conduit;

a conserving device; and

a portable-unit oxygen gas transfer connector for transferring oxygen gas to an oxygen gas delivery device for delivery.

69. (Currently Amended) ~~The apparatus of claim 22~~ A portable, high-efficiency liquid oxygen (LOX) storage/delivery apparatus, comprising:

a portable LOX container;

a portable-unit LOX transfer connector connected to said portable container and capable of receiving and transferring LOX to said portable container;

an economizer valve for minimizing venting by balancing gaseous oxygen withdrawn from said portable LOX container via a gas withdrawal conduit and liquid oxygen withdrawal from said portable LOX container via a liquid withdrawal conduit, wherein a portion of the liquid withdrawal conduit is located within a portion of the gas withdrawal conduit; and

a portable-unit oxygen gas transfer connector for transferring oxygen gas to an oxygen gas delivery device for delivery.

70. (Currently Amended) ~~The apparatus of claim 22~~ A portable, high-efficiency liquid oxygen (LOX) storage/delivery apparatus, comprising:

a portable LOX container;

a portable-unit LOX transfer connector connected to said portable container and capable of receiving and transferring LOX to said portable container;

an economizer valve for minimizing venting by balancing gaseous oxygen withdrawn from said portable LOX container via a gas withdrawal conduit and liquid oxygen withdrawal from said portable LOX container via a liquid withdrawal conduit, wherein a portion of the liquid withdrawal conduit is concentric with a portion of the gas withdrawal conduit; and

a portable-unit oxygen gas transfer connector for transferring oxygen gas to an oxygen gas delivery device for delivery.

71. (Currently Amended) ~~The apparatus of claim 22~~ A portable, high-efficiency liquid oxygen (LOX) storage/delivery apparatus, comprising:

a portable LOX container;

a portable-unit LOX transfer connector connected to said portable container and capable of receiving and transferring LOX to said portable container;

an economizer valve for minimizing venting by balancing gaseous oxygen withdrawn from said portable LOX container via a gas withdrawal conduit and liquid oxygen withdrawal from said portable LOX container via a liquid withdrawal conduit, wherein the liquid withdrawal conduit and the gas withdrawal conduit open into the interior of the portable LOX container at locations substantially diagonal from each other relative to the interior of the portable LOX container; and

a portable-unit oxygen gas transfer connector for transferring oxygen gas to an oxygen gas delivery device for delivery.

72. (Original) The apparatus of claim 22, wherein said portable LOX container is configured to hold about one pound of LOX when fully charged with LOX.

73. (Original) The apparatus of claim 22, wherein said LOX storage/delivery apparatus can last approximately 10 hours at a typical patient use rate of about 2 liters per minute.